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November 21, 2005

### Via Hand Delivery

Mary L. Fulghum, Esq. Office of Regional Counsel U.S. EPA Region 5 C-14J 77 W. Jackson Blvd. Chicago, Illinois 60604

Re:

161 E. Grand Building

Dear Ms. Fulghum:

Enclosed is a report from ENVIRON that relates to the next phase of the Optimus HVAC Project. It also describes ENVIRON's oversight of the Phase I basement work. Optimus plans to conduct the work this week in accordance with ENVIRON's recommendations.

Sincerely,

WILDMAN, HARROLD, ALLEN & DIXON LLP

Joseph F. Madonia

JFM:ld Enclosure

## ENVIRON

November 13, 2005

Mr. Tom Duff President Opt1mus 161 East Grand Avenue Chicago, Illinois 60611

Re: Opt1mus – 161 East Grand Avenue Radiation Screening, Phase 2 Final Report for Submission to EPA

Dear Mr. Duff:

ENVIRON International Corporation ('ENVIRON') conducted additional radiation screening at the premises presently occupied by Opt1mus located at 161 East Grand Avenue in Chicago, Illinois ('Site'). This additional screening was conducted on October 14, 2005 and included locations where riser ducts will penetrate through floors, the roof as well as a location where an exterior door will be removed to install a fresh air intake. ENVIRON was assisted in the radiation screening by Mr. Knox McCormac, Operations Manger for Opt1mus.

In addition to this additional screening event, on October 15, 2005 ENVIRON observed the work practices of Brandenburg Industrial Service Company (Brandenburg) while two operations were being conducted in the basement of the Site:

- 1. Penetrations through walls; and
- 2. The installation of surface mounted hangars.

It is our understanding that the Site is continuing a renovation project that necessitates creating penetrations in the deck on all floor levels of the Site for the installation of heating, ventilation, and air conditioning ductwork. As such, this additional radiological screening was conducted to determine the background gamma radiation level within the specific areas within the renovation area. Hence, this letter report details ENVIRON's screening and observations from October 14 and 15, 2005.

#### **BACKGROUND**

An initial assessment was conducted on September 1, 2005 in order to establish a background level of radiation due to potential existence of residual thorium at the Site. A secondary assessment was conducted on September 8, 2005 and included specific wall penetrations that were not previously surveyed. Recommendations for making wall penetrations and installing brackets were provided for areas at the Site that exhibited gamma radiation levels above background (i.e., B7/B10 and adjacent areas).

#### **METHODOLOGY AND SCOPE**

In general, the following activities were conducted at the Site:

- Facility representatives assisted ENVIRON in identifying those areas where riser ducts
  will penetrate through each floor, the roof as well as the location where an exterior door
  will be removed to install the fresh air intake;
- After identifying those areas, the various structural and non-structural components of the
  Site (i.e., decking, rafters, walls, ceiling components, and ductwork) were screened to
  determine the level of background radiation that existed on these components. This
  screening was conducted using a Ludlum Model 3 survey meter and a gamma
  scintillation detector (Model 44-2) and was calibrated following protocols established by
  the United States Environmental protection Agency;
- ENVIRON observed the work practices of Brandenburg while wall penetrations were being made and hangars were being installed in the basement of the Site; and
- ENVIRON screened the resulting wall debris packed up for disposal by Brandenburg to determine the level of radiation in this debris, if any.

#### **DISCUSSION**

Table 1 presents the results in microRoentgens per hour (uR/Hr) for the gamma radiation survey in a tabular format while Figure 1, entitled "Opt1mus Readings" presents the general location from where the results where obtained, also in uR/Hr.

From previous Site visits, in general, the level of gamma radiation in the outdoor environment surrounding the Site (e.g., concrete sidewalk and the bricks/mortar of the building) ranged between 11 to 15 uR/Hr. As shown in Table 1, Gamma radiation screening results for the designated riser locations in the basement, first floor, and roof locations exhibited gamma radiation levels at or below 20 uR/Hr. Radiation levels increased on the second floor and ranged between 15-30 uR/Hr for various building components (i.e., floor, deck, rafter and the brick wall). For the third floor riser location, the floor readings ranged between 19-21 uR/Hr whereas the deck readings were 40 uR/Hr. The fourth floor riser location exhibited similar results (i.e., above background levels).

ENVIRON observed the following work practices while Brandenburg made penetrations and installed hangars in areas B7/B10 and adjacent areas:

- Building components in work areas were protected using 6 mil polyethylene plastic sheeting;
- Personnel conducting the penetrations were double suited and wore a half-face respirators with HEPA cartridges;
- Following work area preparations, a utility knife and powered hand tools were used to make wall penetrations;
- HEPA vacuuming was utilized to collect resulting dust;
- Debris was disposed of in waste bags that were double bagged and placed in a 55-gallon drums; and
- The waste from these operations had a radiation level of 25-30 uR/Hr.

#### **RESULTS AND RECOMMENDATIONS**

ENVIRON recommends the following for the additional floor and wall penetrations in these areas (i.e., the second, third and fourth floors) that exceed 20 uR/Hr:

- Isolate these areas from the remaining areas of the Site in order to conduct renovation activities;
- Identify the specific location where the floor/wall penetration will occur;
- Erect a "mini-enclosure" that isolates the proposed floor/wall penetration from the remaining area. This "mini-enclosure" should be under negative pressure and filtered through high efficiency particulate air filter (HEPA) system identical to those used in asbestos abatement. Additionally, the "mini-enclosure" should be large enough (e.g., 6' x 6') to allow for unencumbered access while still containing the operation; and
- All debris generated from these operations should be properly characterized and disposed of once all operations have been completed.

If you have any questions or concerns, please do not hesitate to contact me at (312) 853-9430, ext. 215.

Sincerely,

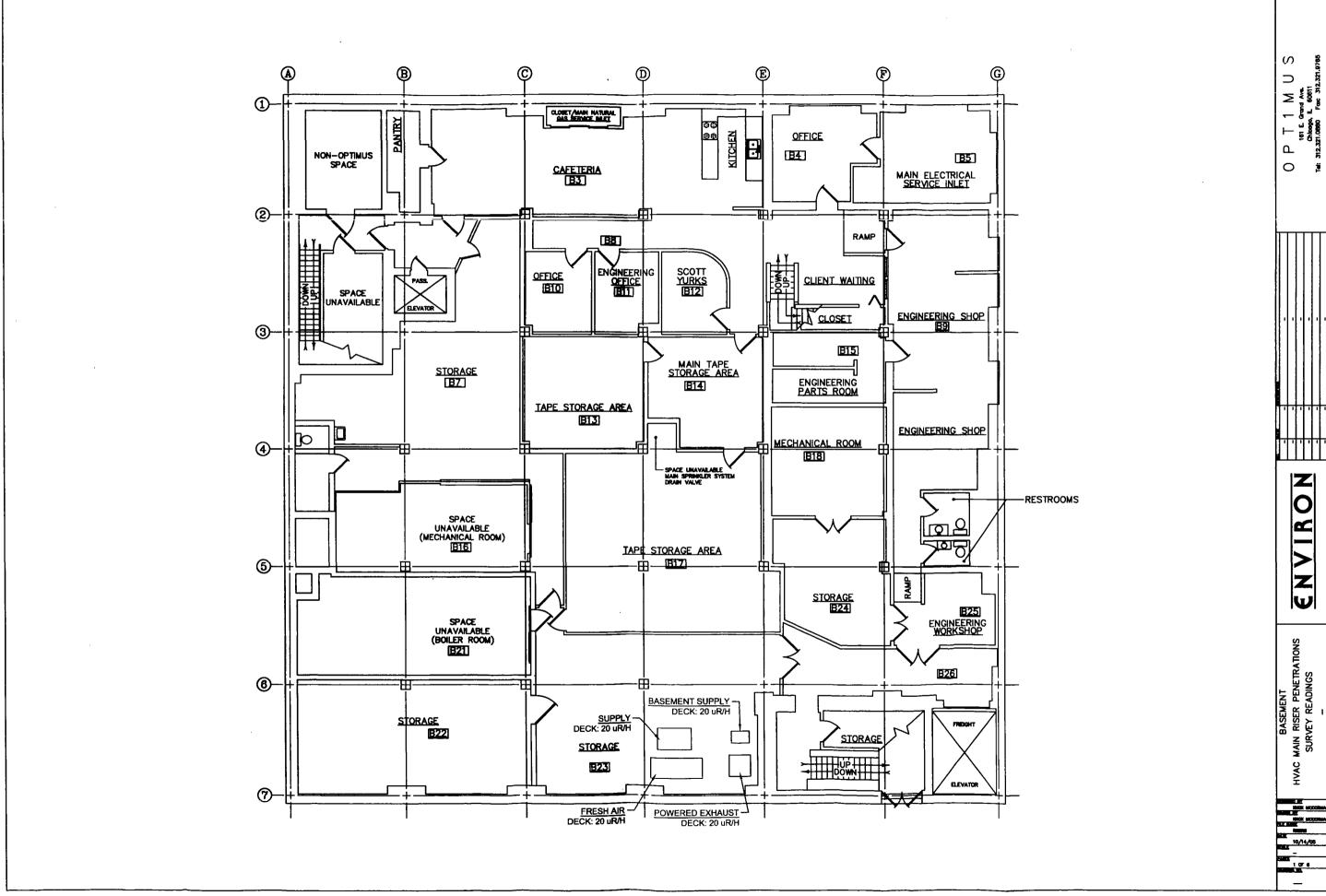
**ENVIRON International Corporation** 

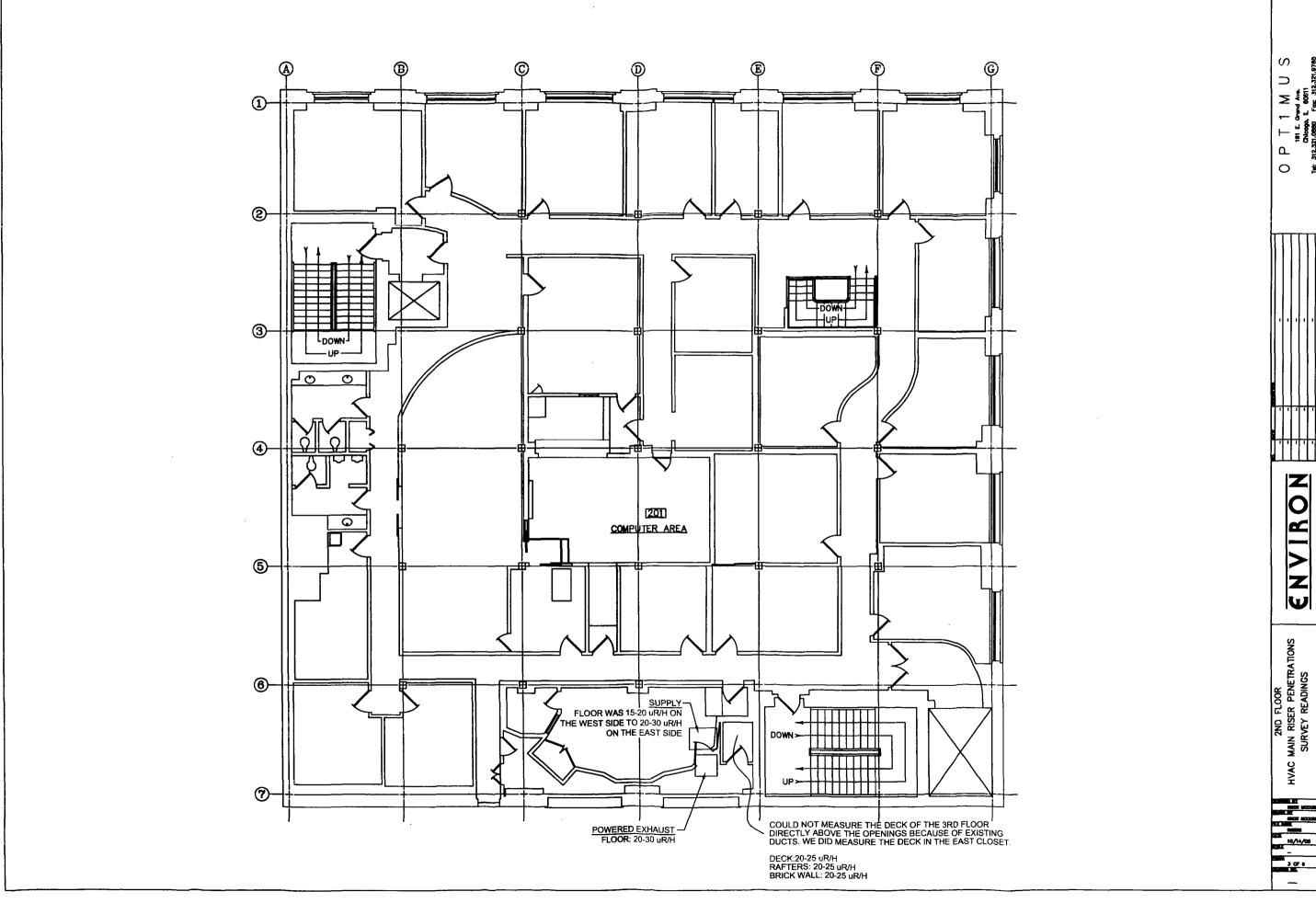
Mark S. Watka, CIH Senior Project Manager

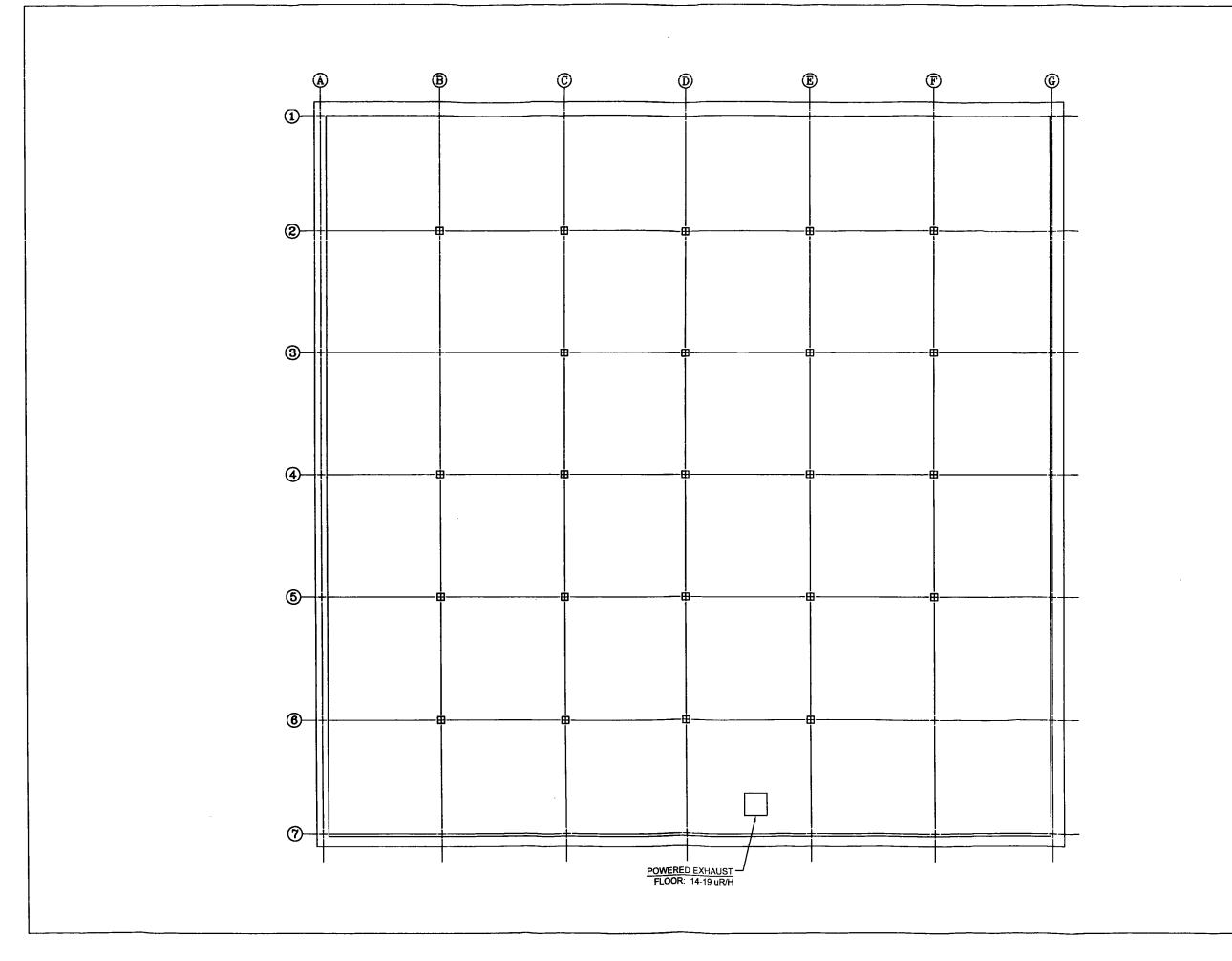
**Enclosures** 

# Table 1. Gamma Radiation Screening Results Phase 2: Floors 1 – 4 & Roof 161 East Grand Avenue, Chicago, IL.

Area Location	<b>Building Component</b>	AVG. Reading (MicroR/hr)
Outdoors (Background)	Side Walk	11
	Building Wall	15
Basement	Deck	20
Riser location		
First Floor	Deck	15-20
Riser location	Rafter	15-18
	Floor	15-18
First Floor	Door	10-15
Fresh air intake location	Walls around door	15-20
	Floor around door	10-15
Second Floor	Floor (northwest side)	15-20
Riser location	Floor (northeast side)	20-30
	Floor (south side)	20-30
	Deck (east closet was	20-25
	only area accessible,	
	existing ducts were	
	located in areas of	
	proposed opening)	
	Rafter	20-25
	Brick wall	20-25
Third Floor	Floor	19-21
Riser location	Deck	40
Fourth Floor	Deck	30-50
Riser location	Floor	40-50
	Wall (brick, south side)	30
	Rafter	30
	Ceiling tile	30
	Wall studs	20
	Drywall	20
	Fiberglass wall	20
	insulation	
Roof	Floor	14-19
Riser location		· ·







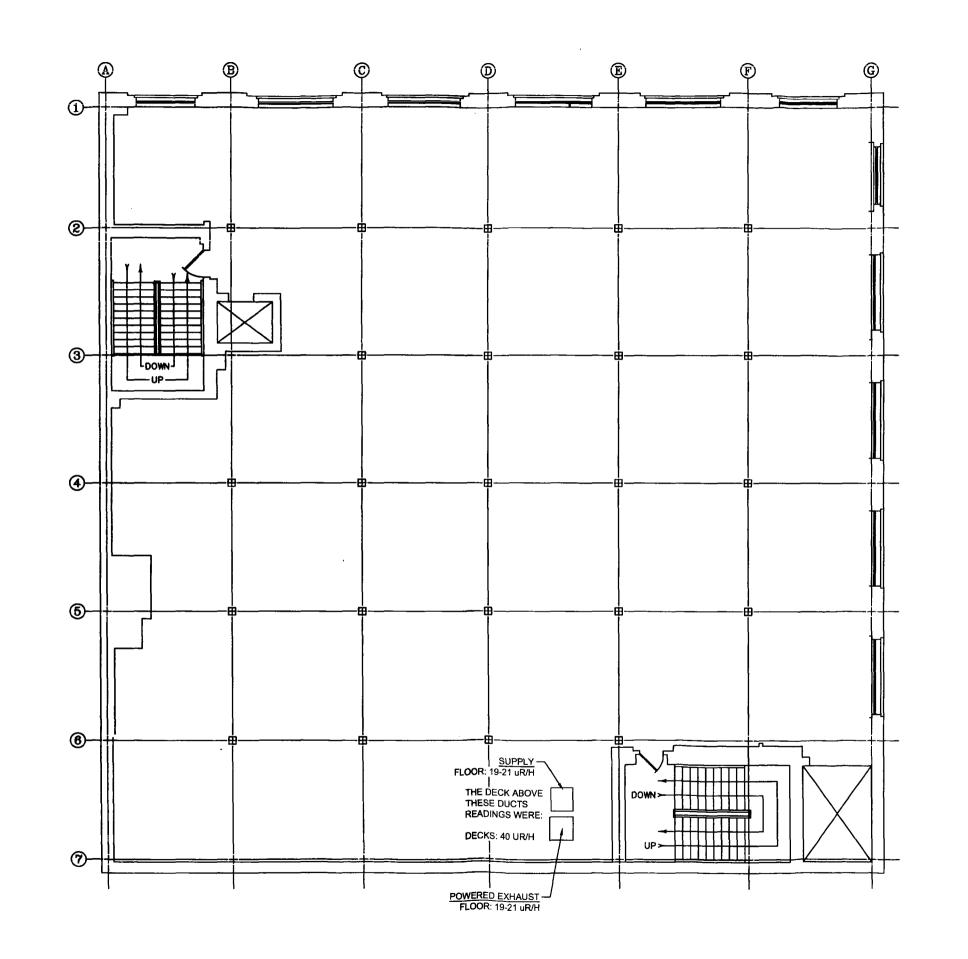
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ENVIRON

ROOF

WALL MAIN RISER PENETRATIONS

SURVEY READINGS



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ENVIRON